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Summary Report

2005

Washington State Department of
Agriculture
Plant Protection Division



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Gypsy Moth Program

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Asian Gypsy Moth (AGM) Survey:

Detection

A waterway survey was conducted with traps stretching from the B.C. border, down into Puget Sound, along the Pacific Coast and up the Columbia River thru Klickitat County at four traps per linear mile. In addition, port surveys were conducted using a density of nine traps per square mile for a radius of one mile, and four traps per square mile for an additional two-mile radius. Two exceptions were the high-risk Ports of Tacoma and Seattle, which were trapped at a density of twenty-five traps per square mile for a two-mile radius, and sixteen traps per square mile for an additional three-mile radius. In 2005, a total of 5,798 AGM detection port and waterway traps were placed.

Delimiting

There have not been any Asian gypsy moths trapped in Washington State since the summer of 1999. A single Asian gypsy moth was trapped in Idaho the summer of 2004 approximately 1.5 miles from the Washington State border about 10 miles east of Spokane. Approximately 1/3 of the normal 5-mile radius delimiting response grid fell in Washington State. A response grid was placed in Spokane County during the summer of 2005. The Spokane grid contained 1,548 gypsy moth traps placed at a density of twenty-five traps per square mile. An additional 794 gypsy moth traps were placed along the major railroads in eastern Washington at a density of four traps per linear mile.

European Gypsy Moth (EGM) Survey:

Detection

Washington State was surveyed at the density of one trap per square mile to detect European gypsy moth (EGM) introductions. A total of 11,315 traps were placed during the 2005 survey season.

Delimiting

Delimiting survey grids were placed in thirty-five catch areas from 2003 and 2004 with seven new catch sites added during 2005. Prior year single moth catch sites received twenty-five traps per square mile for a radius of one mile. Prior year multiple moth catch sites received sixty-four traps per square mile for a radius of one mile. A total of 4,744 EGM delimiting traps were placed.

Traps

A total of 24,199 gypsy moth traps were placed in Washington State during the summer of 2005. Of these 24,199 traps, 17,113 were for detection and 7,086 were for delimiting traps (see Table 5).

Moths

Thirty-one gypsy moths were caught in 2005 and all were of the European variety. All moths were caught in western Washington and none in eastern Washington.

Fifteen catch areas were recorded in 2005 (see Table 1).

Ten of the 2005 catch areas were single-moth sites.

Eight of the seventeen 2004 catch areas did not repeat in 2005 (see Table 4).

History

Table 1. GM 12 Year Catch History

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Total Catch Areas | 35 | 40 | 26 | 26 | 17 | 15 | 12 | 15 | 15 | 17 | 24 | 15 |
| New Catch Areas | 20 | 20 | 18 | 16 | 9 | 12 | 8 | 11 | 11 | 11 | 18 | 7 |
| Moths | 173 | 149 | 91 | 69 | 53 | 42 | 92 | 33 | 17 | 59 | 68 | 31 |
| Moths/Area | 4.9 | 3.7 | 3.5 | 2.6 | 3.1 | 2.8 | 7.7 | 2.2 | 1.1 | 3.5 | 2.8 | 2.1 |
| Traps | 15,908 | 36,166 | 31,668 | 25,185 | 20,230 | 21,498 | 21,834 | 22,046 | 18,698 | 21,633 | 21,764 | 24,199 |

Catch Areas

Seven new catch areas were recorded in 2005 with the following number of moth catches in each:

- Clark Co. Fort Vancouver (1)
- Cowlitz Co. Three Rivers (1)
- Island Co. Keystone (1)
- King Co. Bellevue Square (2), Kent Commons (4), Roxbury (1), and Shoreline (1)

Eradication

2002

The Crown Hill eradication site was treated three times with Btk (Foray 48B). The Crown Hill site was treated using ground based equipment. A declaration of eradication requires two consecutive years of negative trap data. During the summer of 2002 there were no gypsy moths trapped in Crown hill site. During the summer of 2003 there was one gypsy moth trapped near the Crown Hill site. During the summer of 2004 there were no gypsy moth trapped in the Crown Hill site. During the summer of 2005 there were eight gypsy moths trapped.

2003

WSDA did not have any gypsy moth eradication sites in 2003.

2004

During the spring of 2004 the Port Ludlow, Bellevue, and Mayfield sites were treated three times with Btk (Foray 48B). All treatments were conducted by WSDA using ground based equipment. During the summer of 2004 there was one gypsy moth trapped near the Mayfield site. For acreage treated see Table 2.

Table 2. 2004 Gypsy Moth Eradication Sites

| County | Site | Acres | Method | Treatment |
|-----------|----------------------|-------------|--------|-----------|
| Jefferson | Port Ludlow | 12 | H | Btk |
| King | Bellevue | 11 | H | Btk |
| Lewis | Mayfield | 7.5 | H | Btk |
| | Total Acreage | 30.5 | | |

Method: A-aerial, H-hydraulic, R-rotomist, M-mass trapping

Treatment: Btk-*Bacillus thuringiensis kurstaki*

2005

During the spring of 2005 the Eastlake and Evergreen sites were treated three times with Btk (Foray 48B). The Eastlake treatments were conducted by WSDA using ground-based equipment. The Evergreen Ridge treatments were conducted aerially. During the summer 2004 and 2005 summer surveys no gypsy moths were trapped in Bellevue and Port Ludlow, therefore, both sites are declared eradicated. During the summer of 2005 there was one gypsy moth trapped near the Eastlake site. For acreage treated see Table 2.

Table 2. 2005 Gypsy Moth Eradication Sites

| County | Site | Acres | Method | Treatment |
|--------|----------------------|------------|--------|-----------|
| King | Eastlake | 12 | H | Btk |
| Kitsap | Evergreen Ridge | 160 | A & H | Btk |
| | Total Acreage | 172 | | |

Method: A-aerial, H-hydraulic, R-rotomist, M-mass trapping

Treatment: Btk-*Bacillus thuringiensis kurstaki*

2006

WSDA is proposing eradication projects for two EGM areas in 2006 (see table 3).

Table 3. 2006 Gypsy Moth Eradication Sites

| County | Site | Acres |
|--------|----------|-------|
| King | Madrona | 100 |
| King | Rosemont | 5.5 |

Table 4. 2003 - 2005 W.S.D.A Gypsy Moth Survey Results

| County | | Catch Area | 2003 | | 2004 | | 2005 | | Control Actions |
|---------------|---|-------------------|-------------|----------------|-------------|----------------|-------------|----------------|----------------------|
| | | | Total Catch | No. Trap Sites | Total Catch | No. Trap Sites | Total Catch | No. Trap Sites | |
| CLARK | ☒ | Fort Vancouver | --- | --- | --- | --- | 1 | 1 | |
| " | | Skye | --- | --- | 1 | 1 | 0 | 0 | |
| Cowlitz | ☒ | Three Rivers | --- | --- | --- | --- | 1 | 1 | |
| ISLAND | | Coupeville | --- | --- | 1 | 1 | 0 | 0 | |
| " | | Deception Pass | --- | --- | 1 | 1 | 0 | 0 | |
| " | ☒ | Keystone | --- | --- | --- | --- | 1 | 1 | |
| JEFFERSON | | Port Ludlow | 14 | 12 | 0 | 0 | 0 | 0 | |
| KING | | Bellevue | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | ☒ | Bellevue Square | --- | --- | --- | --- | 2 | 1 | |
| " | | Bellevue South | 17 | 13 | 0 | 0 | 0 | 0 | |
| " | | Crown Hill | 1 | 1 | 0 | 0 | 8 | 6 | '02 (\$) Crown Hill |
| " | | Factoria | 0 | 0 | 1 | 1 | 0 | 0 | |
| " | | Flaming Geyser | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | | Fort Dent | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | | Georgetown | --- | --- | 3 | 2 | 0 | 0 | |
| " | ☒ | Kent Commons | --- | --- | --- | --- | 4 | 3 | |
| " | | Madrona Park | --- | --- | 6 | 4 | 5 | 4 | |
| " | | Newcastle | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | | Newport Hills | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | | Preston | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | | Ravenna | --- | --- | 4 | 4 | 0 | 0 | |
| " | | Roanoke | 5 | 5 | 5 | 4 | 1 | 1 | '05 (\$) Eastlake |
| " | | Rosemont | 1 | 1 | 0 | 0 | 2 | 1 | |
| " | ☒ | Roxbury | --- | --- | --- | --- | 1 | 1 | |
| " | | Sahalee | 1 | 1 | 0 | 0 | 0 | 0 | |
| " | | Samamish | --- | --- | 1 | 1 | 1 | 1 | |
| " | ☒ | Shoreline | --- | --- | --- | --- | 1 | 1 | |
| " | | Union Hill | --- | --- | 1 | 1 | 0 | 0 | |
| KITSAP | | Bainbridge Island | 1 | 1 | 1 | 1 | 0 | 0 | |
| " | | Evergreen Ridge | 1 | 1 | 20 | 5 | 0 | 0 | '05 (#) Evergreen R. |
| " | | Fairview | --- | --- | 2 | 2 | 1 | 1 | |
| LEWIS/COWLITZ | | Mayfield | 8 | 1 | 1 | 1 | 0 | 0 | '04 (\$) Mayfield |
| MASON | | Belfair | --- | --- | 1 | 1 | 0 | 0 | |
| PIERCE | | Fredrickson | --- | --- | 1 | 1 | 0 | 0 | |
| " | | Pioneer | 3 | 3 | 2 | 2 | 1 | 1 | |
| " | | Port of Tacoma | --- | --- | 1 | 1 | 0 | 0 | |
| " | | Spanaway | --- | --- | 1 | 1 | 0 | 0 | |
| SAN JUAN | | San Juan Island | --- | --- | 1 | 1 | 0 | 0 | |
| " | | Shaw Island | --- | --- | 9 | 2 | 1 | 1 | |
| SKAGIT | | Concrete | 1 | 1 | 0 | 0 | 0 | 0 | |
| SNOHOMISH | | Maltby | --- | --- | 1 | 1 | 0 | 0 | |
| " | | Marysville | --- | --- | 2 | 2 | 0 | 0 | |
| WHATCOM | | Squalicum | --- | --- | 1 | 1 | 0 | 0 | |
| Totals | | | 59 | 46 | 68 | 42 | 31 | 25 | |

(#) Bt (Aerial)
 (\$) Bt (Ground Spray)

(---) Pre-catch
 ☒ New Site 2005

Table 5. 2005 Washington State Gypsy Moth Program Trap Deployment

- 5 -

| County | 4/lin mi | 4/sq mi | 9/sq mi | 16/sq mi | 25/sq mi | AGM Total | 1/sq mi | 25/sq mi | 50/sq mi | 64/sq mi | EGM Total | G. Total |
|---------------|--------------|------------|------------|--------------|--------------|--------------|---------------|--------------|------------|--------------|---------------|---------------|
| Adams | 8 | | | | | 8 | 17 | | | | 17 | 25 |
| Asotin | 9 | | | | | 9 | 18 | | | | 18 | 27 |
| Benton | 1 | | | | | 1 | 2 | 113 | | | 115 | 116 |
| Chelan | 98 | | | | | 98 | 197 | | | | 197 | 295 |
| Clallam | 422 | 90 | 33 | | | 545 | 284 | | | | 284 | 829 |
| Clark | 127 | 103 | 34 | | | 264 | 396 | 38 | | | 434 | 698 |
| Columbia | 3 | | | | | 3 | 6 | | | | 6 | 9 |
| Cowlitz | 109 | 161 | 112 | | | 382 | 313 | | | | 313 | 695 |
| Douglas | 24 | | | | | 24 | 49 | | | | 49 | 73 |
| Ferry | 26 | | | | | 26 | 54 | | | | 54 | 80 |
| Franklin | 14 | | | | | 14 | 29 | | | | 29 | 43 |
| Garfield | 4 | | | | | 4 | 9 | | | | 9 | 13 |
| Grant | 28 | | | | | 28 | 57 | | | | 57 | 85 |
| Grays Harbor | 249 | 61 | 55 | | | 365 | 425 | | | | 425 | 790 |
| Island | 29 | | | | | 29 | 264 | 127 | | | 391 | 420 |
| Jefferson | 189 | 98 | 39 | | | 326 | 251 | | | 120 | 371 | 697 |
| King | 220 | | | 666 | 478 | 1,364 | 1,731 | 1,442 | 227 | 842 | 4,242 | 5,606 |
| Kitsap | 191 | | | | | 191 | 276 | 345 | | 142 | 763 | 954 |
| Kittitas | 38 | | | | | 38 | 77 | | | | 77 | 115 |
| Klickitat | 48 | | | | | 48 | 133 | | | | 133 | 181 |
| Lewis | | | | | | 0 | 1,046 | | | 86 | 1,132 | 1,132 |
| Lincoln | 17 | | | | | 17 | 35 | | | | 35 | 52 |
| Mason | 11 | | | | | 11 | 443 | 70 | | | 513 | 524 |
| Okanogan | 58 | | | | | 58 | 117 | | | | 117 | 175 |
| Pacific | 258 | | | | | 258 | 287 | | | | 287 | 545 |
| Pend Oreille | 26 | | | | | 26 | 52 | | | | 52 | 78 |
| Pierce | 164 | | | 711 | 365 | 1,240 | 830 | 402 | | | 1,232 | 2,472 |
| San Juan | | | | | | 0 | | 376 | | 73 | 449 | 449 |
| Skagit | | 75 | 36 | | | 111 | 724 | 52 | | | 776 | 887 |
| Skamania | 76 | | | | | 76 | 332 | 10 | | | 342 | 418 |
| Snohomish | | 75 | 43 | | | 118 | 960 | 104 | | 100 | 1,164 | 1,282 |
| Spokane | 259 | | | | 1,548 | 1,807 | 517 | | | | 517 | 2,324 |
| Stevens | 41 | | | | | 41 | 84 | | | | 84 | 125 |
| Thurston | | 159 | 36 | | | 195 | 519 | | | | 519 | 714 |
| Wahkiakum | 146 | 16 | | | | 162 | 70 | | | | 70 | 232 |
| Walla Walla | 15 | | | | | 15 | 31 | | | | 31 | 46 |
| Whatcom | | 90 | 23 | | | 113 | 428 | 75 | | | 503 | 616 |
| Whitman | 17 | | | | | 17 | 36 | | | | 36 | 53 |
| Yakima | 108 | | | | | 108 | 216 | | | | 216 | 324 |
| Totals | 3,033 | 928 | 411 | 1,377 | 2,391 | 8,140 | 11,315 | 3,154 | 227 | 1,363 | 16,059 | 24,199 |

2005 Gypsy Moth Catch Sites in Washington State

